



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,361	09/08/2003	Koichi Otsuki	MES1P046C1	4083
22434	7590	04/14/2006	EXAMINER	
BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			HSIEH, SHIH WEN	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,361

Applicant(s)

OTSUKI, KOICHI

Examiner

Shih-wen Hsieh

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/965,678.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-5-03, 1-12-04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/965,678, filed on Sept. 26, 2001.

Claim Objections

2. Claims 1, 3, 5, 6 and 7 are objected to because of the following informalities:

In regard to:

Claim 1:

Line 4, please change "the main scanning direction" into "a main scanning direction" to correct a minor lack of antecedent basis problem.

Claim 3:

Line 14 and last line in page 64, add "--:--" after comprising.

Page 65, line 1, please change "a user" into "an user".

Claim 5:

Page 66, line 3, please add "--:--" after comprising.

Claim 6:

Last line, please change "a expanded area" into "an expanded area".

Art Unit: 2861

Page 67, line 11, please change "the area size memory" into "an area size memory" to correct a minor lack of antecedent basis problem. Also, add "--:--" after comprising, and delete "and".

Claim 7:

Lat line, please change "the expanded area memory" into "an expanded area memory" to correct a minor lack of antecedent basis problem.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-6 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7, 8, 18, 19, 26 and 36 of U.S. Patent No.

Art Unit: 2861

6,746,101 ('101) respectively. Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with a printing apparatus, which is able to print up to edges of printing paper without platen soiling and method using the same. Below is a table of comparison between claims in both cases to indicate the obviousness of the instant application over its parent:

<u>10/658,361</u>	<u>6,746,101</u>
<p>1. A dot-recording method using a dot-recording device for recording ink dots on a surface of a print medium, the dot-recording device including a dot recording head having a plurality of dot-forming elements for ejecting ink droplets and a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path, the platen having a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements, the dot-recording method comprises the steps of: (A) setting an expanded area in accordance with a type of print medium to be used in the dot recording, the expanded area extending lengthwise beyond front and rear edges of the print medium including an external edge portion disposed in an area beyond the front or rear edge of the print medium, and representing a recording area in which images are to be recorded on the print</p>	<p>7. A dot-recording method using a dot-recording device for recording ink dots on a surface of a print medium, the dot-recording device including a dot-recording head having a plurality of dot-forming elements for ejecting ink droplets and a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path, the platen having a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements, the dot-recording method comprises the steps of: (A) setting an expanded area in accordance with a type of print medium to be used in the dot recording, the expanded area extending lengthwise beyond at least front and rear edges of the print medium, and representing a recording area in which images are to be recorded on the print medium; (B) preparing print data for recording images in the expanded area; (C)</p>

<p>medium; (B) preparing print data for recording images in the expanded area; (C) performing edge printing by ejecting ink droplets from at least some of the dot-forming elements disposed opposite the slot when images are printed at least in front or rear edge portions of the print medium on the basis of the print data; and (D) selecting a specific print mode from among a plurality of available print modes, wherein the step (B) comprises the step of, (B1) preparing the print data including a data of dots of raster lines in the external edge portion in accordance with the selected print mode and the external edge portion.</p> <p>2. A dot-recording method as defined in Claim 1, wherein the plurality of available print modes include print modes with mutually different sub-scan resolutions, the sub-scan resolution representing a recording density of raster lines in the sub-scanning direction; and wherein the step (B) comprises the step of: (B2) setting a number of raster lines constituting the expanded area and a number of raster lines constituting the external edge portion included in the expanded area in accordance with the selected print mode.</p>	<p>performing edge printing by ejecting ink droplets from at least some of the dot-forming elements disposed opposite the slot when images are printed at least in front- or rear-edge portions of the print medium on the basis of the print data; and (D) selecting a specific print mode from among a plurality of available print modes, wherein the type of the print medium depends on slipperiness of the print medium, and wherein the step(B) comprises the step of, (B1) preparing the print data in accordance with the selected print mode.</p> <p>8. A dot-recording method as defined in claim 7, wherein the plurality of available print modes include print modes with mutually different sub-scan resolutions, the sub-scan resolution representing a recording density of raster lines in the sub-scanning direction; and wherein the step (B) comprises the step of: (B2) setting a number of raster lines constituting the expanded area in accordance with the selected print mode.</p>
<p>3. A dot-recording control device for generating print data to be sent to a dot-recording unit for recording dots on a surface of a print medium with the aid of a dot-recording head provided with a plurality of dot-forming elements for ejecting ink droplets, wherein the dot-recording unit is configured to drive the dot-recording head and/or the print medium to perform main scanning, to drive at least some of the dot-forming elements to form dots, and to cause</p>	<p>18. A dot-recording control device for generating print data to be sent to a dot-recording unit for recording dots on a surface of a print medium with the aid of a dot-recording head provided with a plurality of dot-forming elements for ejecting ink droplets, wherein the dot-recording unit is configured to drive the dot-recording head and/or the print medium to perform main scanning, to drive at least some of the dot-forming elements to form dots, and to cause</p>

the print medium to perform sub-scanning by being driven across the main scanning direction in between the main scans, and comprises a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path, and having a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements, the dot-recording control device comprises: an image data generator configured to generate image data for the images recorded on the print medium; an area size memory configured to store information about an expanded area in accordance with a type of print medium to be used in the dot recording, the expanded area extending lengthwise beyond front and rear edges of the print medium including an external edge portion disposed in an area beyond the front or rear edge of the print medium, and representing a recording area in which images are to be recorded on the print medium; an input unit by which information about a selected type of print medium is entered; and a print data generator configured to generate the print data representing images in the expanded area on the basis of information about the selected type of print medium, information about the expanded area, and the image data; the dot-recording control device further comprising: a user interface unit configured to display a selection screen that allows a user to select one of a

the print medium to perform sub-scanning by being driven across the main scanning direction in between the main scans, and comprises a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path, and having a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements, the dot-recording control device comprises an image data generator configured to generate image data for the images recorded on the print medium; an area size memory configured to store information about an expanded area in accordance with a type of print medium to be used in the dot recording, the expanded area extending lengthwise beyond at least front and rear edges of the print medium and representing a recording area in which images are to be recorded on the print medium; an input unit by which information about a selected type of print medium is entered; and a print data generator configured to generate the print data representing images in the expanded area on the basis of information about the selected type of print medium, information about the expanded area, and the image data; wherein the type of the print medium depends on slipperiness of the print medium, the dot-recording control device further comprising a user interface unit configured to display a selection screen that allows a user to select one of a

<p>plurality of preinstalled print modes on a display, and that allows the selection be entered; wherein the area size memory comprises, an expanded area memory containing, for each print mode, a number of raster lines constituting the expanded area; and wherein the print data generator generates the print data including a data of dots of raster lines in the external edge portion for recording dots with which images can be formed in the expanded area on the basis of the selected print mode and the external edge portion, the number of raster lines stored in the expanded area memory, and the image data for the images to be recorded on the print medium.</p>	<p>plurality of preinstalled print modes on a display, and that allows the selection be entered; wherein the area size memory comprises, an expanded area memory containing, for each print mode, a number of raster lines constituting the expanded area; and wherein the print data generator generates the print data for recording dots with which images can be formed in the expanded area on the basis of the selected print mode, the number of raster lines stored in the expanded area memory, and the image data for the images to be recorded on the print medium.</p>
<p>4. A dot-recording control device as defined in Claim 3, wherein the plurality of available print modes include print modes with mutually different sub-scan resolutions, the sub-scan resolution representing a recording density of raster lines in the sub-scanning direction; and the print data generator comprises a raster line number setter setting a number of raster lines constituting the expanded area and the number of raster lines constituting the external edge portion included in the expanded area in accordance with the selected print mode and the number of raster lines stored in the expanded area memory.</p>	<p>19. A dot-recording control device as defined in claim 18, wherein the plurality of available print modes include print modes with mutually different sub-scan resolutions, the sub-scan resolution representing a recording density of raster lines in the sub-scanning direction; and the print data generator comprises a raster line number setter setting a number of raster lines constituting the expanded area in accordance with the selected print mode and the number of raster lines stored in the expanded area memory.</p>
<p>5. A dot-recording device for recording ink dots on a surface of a print medium with the aid of a dot-recording head provided with a plurality of dot-forming elements for ejecting ink droplets, the dot-recording device comprising: a main scanning unit configured to drive the dot-recording head and/or the print medium to perform main scanning; a</p>	<p>26. A dot-recording device for recording ink dots on a surface of a print medium with the aid of a dot-recording head provided with a plurality of dot-forming elements for ejecting ink droplets, the dot-recording device comprising: a main scanning unit configured to drive the dot-recording head and/or the print medium to</p>

head driver configured to drive at least some of the dot-forming elements to form dots during the main scanning; a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path; a sub-scanning unit configured to move the print medium to perform sub-scanning in between the main scans; and a controller configured to control the dot-recording device, wherein the platen has a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements; and the controller comprises: a print data memory configured to store a print data for recording images in an expanded area that extends lengthwise beyond front and rear edges of the print medium including an external edge portion disposed in an area beyond the front or rear edge of the print medium, the print data being selected in accordance with the required type of print medium; and an edge printing unit configured to perform edge printing by ejecting ink droplets from at least some of the dot-forming elements disposed opposite the slot when images are printed at least in front- or rear-edge portions of the print medium on the basis of the print data; wherein the controller further comprises: a print data memory for storing the print data including a data of dots of raster lines in the external edge portion in accordance with the specific print mode and the external edge portion.

perform main scanning; a head driver configured to drive at least some of the dot-forming elements to form dots during the main scanning; a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path; a sub-scanning unit configured to move the print medium to perform sub-scanning in between the main scans; and a controller configured to control the dot-recording device, wherein the platen has a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements; and the controller comprises a print data memory configured to store a print data for recording images in an expanded area that extends lengthwise beyond at least front and rear edges of the print medium, the print data being selected in accordance with the required type of print medium; and an edge printing unit configured to perform edge printing by ejecting ink droplets from at least some of the dot-forming elements disposed opposite the slot when images are printed at least in front- or rear-edge portions of the print medium on the basis of the print data; wherein the type of the print medium depends on slipperiness of the print medium, and wherein the controller further comprises: a print data memory for storing the print data in accordance with the specific print mode.

6. A computer program product for recording ink dots on a surface of a print medium using a computer, the computer equipped with a dot-recording device for recording ink dots on a surface of a print medium with the aid of a dot-recording head provided with a plurality of dot-forming elements for ejecting ink droplets, wherein the dot-recording device comprises a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path, the platen being configured to have a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements; the computer program product comprising: a computer readable medium; and a computer program stored on the computer readable medium, the computer program comprising: a first program for causing the computer to prepare print data for recording images in an expanded area, the print data representing a recording area in which images are to be recorded on the print medium, and being set in accordance with a type of print medium to be used in the dot recording, the expanded area extending lengthwise beyond front and rear edges of the print medium including an external edge portion disposed in an area beyond the front or rear edge of the print medium; and a second program for causing the computer to eject ink droplets from at least some of the dot-forming elements

36. A computer program product for recording ink dots on a surface of a print medium using a computer, the computer equipped with a dot-recording device for recording ink dots on a surface of a print medium with the aid of a dot-recording head provided with a plurality of dot-forming elements for ejecting ink droplets, wherein the dot-recording device comprises a platen configured to extend in the main scanning direction and to be disposed opposite the dot-forming elements at least along part of a main scan path, the platen being configured to have a slot configured to extend in the main scanning direction, a width of the slot in the sub-scanning direction corresponding to a specific sub-scanning range on a surface of the dot recording head including at least part of the plurality of dot-forming elements; the computer program product comprising: a computer readable medium; and a computer program stored on the computer readable medium, the computer program comprising: a first program for causing the computer to prepare print data for recording images in a expanded area, the print data representing a recording area in which images are to be recorded on the print medium, and being set in accordance with a type of print medium to be used in the dot recording, the expanded area extending lengthwise beyond at least front and rear edges of the print medium; and a second program for causing the computer to eject ink droplets from at least some of the dot-forming elements disposed opposite the slot when images are printed at least in front- or rear-edge portions of

<p>disposed opposite the slot when images are printed at least in front- or rear-edge portions of the print medium on the basis of the print data; wherein the first program comprises: a user interface program which displays a selection screen that allows the user to select one of a plurality of preinstalled print modes on a display, and that allows the selection be entered; wherein the area size memory comprises, and a print data generating program which generates the print data including a data of dots of raster lines in the external edge portion in accordance with the selected print mode and the external edge portion.</p> <p>7. A computer program product as defined in Claim 6, wherein the user interface program displays the selection screen that allows the user to select one of the available print modes with mutually different sub-scan resolutions, the sub-scan resolution representing a recording density of raster lines in the sub-scanning direction; and the print data generating program sets a number of raster lines constituting the expanded area and a number of raster lines constituting the external edge portion included in the expanded area in accordance with the selected print mode and the number of raster lines stored in the expanded area memory.</p>	<p>the print medium on the basis of the print data; wherein the first program comprises: a user interface program which displays a selection screen that allows the user to select one of a plurality of preinstalled print modes on a display, and that allows the selection be entered; wherein the area size memory comprises, and a print data generating program which generates the print data in accordance with the selected print mode; wherein the user interface program displays the selection screen that allows the user to select one of the available print modes with mutually different sub-scan resolutions, the sub-scan resolution representing a recording density of raster lines in the sub-scanning direction; wherein the print data generating program sets a number of raster lines constituting the expanded area in accordance with the selected print mode and the number of raster lines stored in the expanded area memory; and wherein the expanded area is divided, in order from the top, into an external front edge portion disposed in an area beyond the front edge of the print medium and configured such that formation of dots in this portion is assigned to the dot-forming elements disposed opposite the slot; an internal front edge portion on the front-edge portion of the print medium and configured such that formation of dots in this portion is assigned to the dot-forming elements disposed opposite the slot; an intermediate portion of the print medium; an internal rear edge portion on the rear-edge portion of the print medium and configured such that formation of dots in this portion is</p>
---	--

Art Unit: 2861

	<p>assigned to the dot-forming elements disposed opposite the slot; and an external rear edge portion disposed in an area beyond the rear edge of the print medium and configured such that formation of dots in this portion is assigned to the dot-forming elements disposed opposite the slot; and the print data generating program sets: the number of raster lines constituting the external front edge portion; the number of raster lines constituting the internal front edge portion; the number of raster lines constituting the internal rear edge portion; and the number of raster lines constituting the external rear edge portion, a number of raster lines for the external front edge portion being such that the dimensions of the external front edge portion remain the same in the sub-scanning direction with respect to different print modes having mutually different sub-scan resolutions, when the same type of print medium is used; and a number of raster lines for the external rear edge portion being such that the dimensions of the external rear edge portion remain the same in the sub-scanning direction with respect to different print modes having mutually different sub-scan resolutions, when the same type of print medium is used.</p>
--	---

In regard to:

Claims 1 and 2:

These claims correspond to claims 7 and 8 of patent ('101). Steps (A) through (D) are the same. Step (B1) in the instant application corresponds to steps (B1) and (B2) in claim 8 of patent ('101). Plurality printing modes are the same.

Claim 3:

Corresponding to claim 18 of patent ('101).

Claim 4:

Corresponding to claim 19 of patent ('101).

Claim 5:

Corresponding to claim 26 of patent ('101). Subject matters such as: main scanning unit, head driver, platen, sub-scanning unit and controller are the same as those in claim 26 of patent ('101).

Claims 6 and 7:

Corresponding to claim 36 of patent ('101). Subject matters such as: computer product program, computer readable medium, computer program, first and second programs, user interface program, etc. are the same as those in claim 36 of patent ('101).

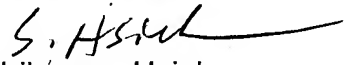
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

Art Unit: 2861

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, S D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-WEN HSIEH
PRIMARY EXAMINER


Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH



April 12, 2006